CEMENT MILL SECTION of
Concrete

The Cement Mill Edition of Concrete is edited exclusively for those interested in the manufacture of portland cement. Its pages are devoted to discussions of plant design, management, operation, production efficiency, chemical research and control, quarry operation, progress and news of the industry.

The Cement Mill Edition also contains all the material published in the corresponding Regular Edition and so provides news of the uses and merchandising of the materials whose manufacture is discussed in the Mill Edition. The Regular Section furnishes mill operating officials and mill executives valuable points of contact with the users of the materials they produce.

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Cement Mill Section of
Concrete

APRIL
1933

Low Consumption of Power Is Feature of Portable Cement Pump

New Smidth Pumping Units at Olympic and Monolith Plants Provide Economical Handling of Cement—Control Is Automatic—Details of Operation

PORTABLE cement pumps that move on tracks along two sides of the cement storage bins at the Bellingham plant of the Olympic Portland Cement Co. comprise the unique equipment that is used to transfer bulk cement from one silo to another, or from the silos to the adjoining packing house, or to a more distantly located and older packing house.

The Bellingham installation has been in operation since the fall of 1929, at which time the storage bins and packing house shown in Figure 1 were completed. A similar pump at the plant of the Monolith Portland Cement Co., in California, was put into operation in October, 1931, for the purpose of handling the fresh cement as it is discharged from the grinding mills.

Figure 2 shows the plan of the Olympic's installation at Bellingham. The tracks from which the pumps operate are in the lean-to sheds along each side of the bins, shown also in Figure 1.

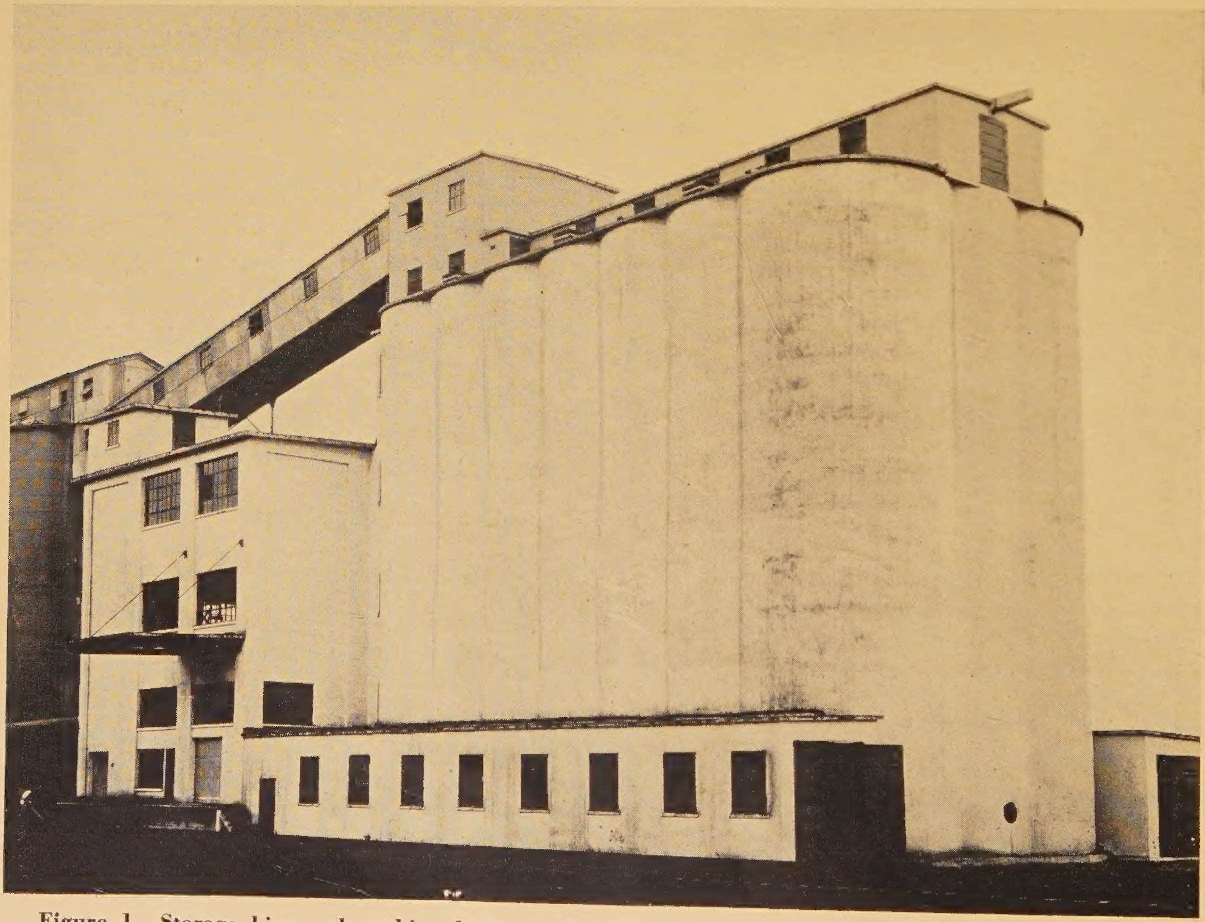


Figure 1. Storage bins and packing house at Bellingham plant of Olympic Portland Cement Co. Portable pumps operating in lean-to sheds convey cement to and from the bins

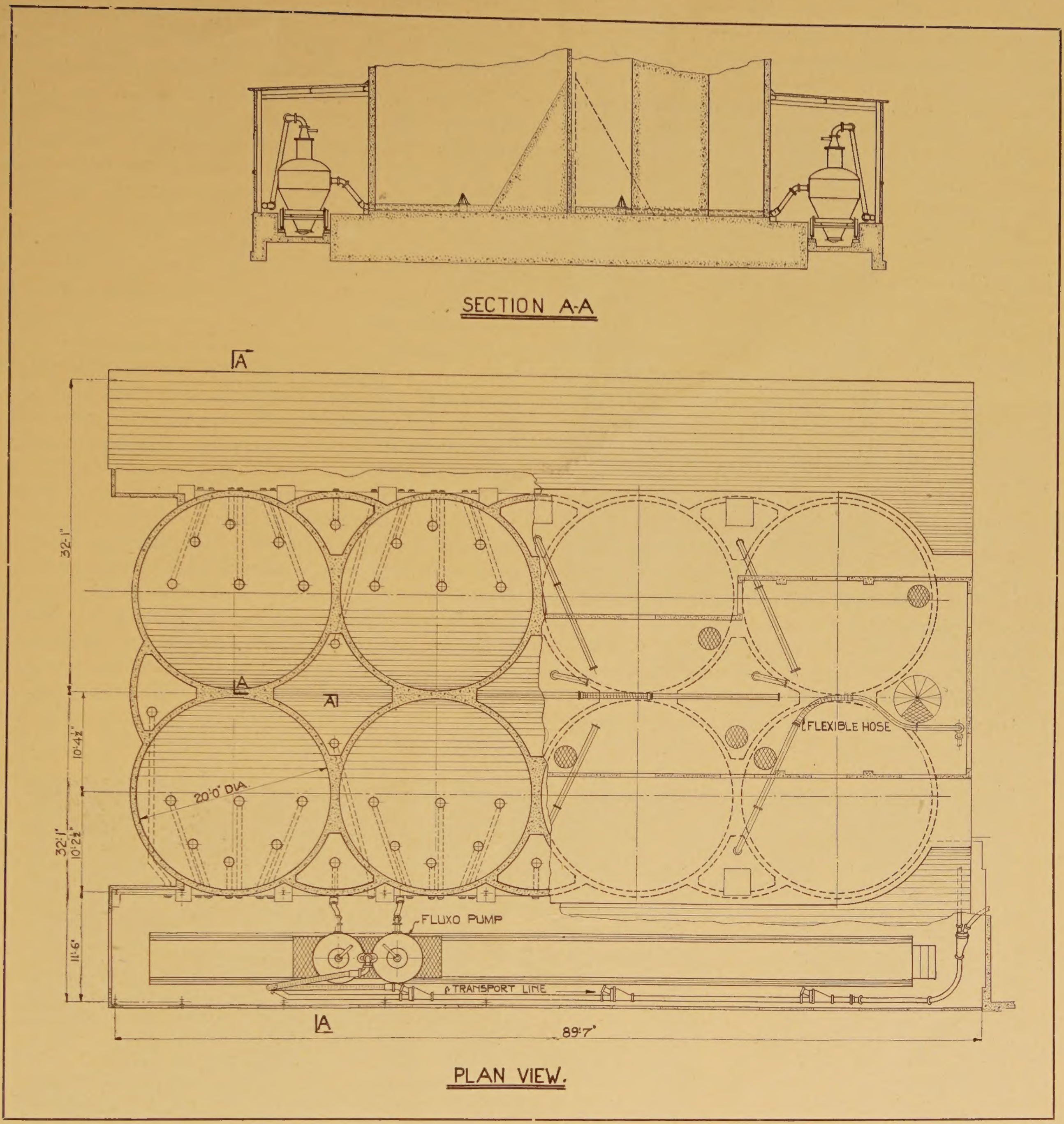


Figure 2. Plan of storage bins and lean-to sheds at Bellingham plant of Olympic

The mechanical arrangement is best indicated in the lean-to shown uncovered in the lower part of Figure 2. Here the cement line (or transport line, as it is called in the drawing) located at the floor level along the outside wall of the lean-to, is seen to have connections at four separate locations. The pump of course, is connected and detached and re-connected at these points by means of flexible hoses which are shown at the right in Figure 3.

As the drawing (Figure 2) shows, each of the main bins is provided with six pipe outlets, each of the interstice bins has two outlets, and each of the outside interstice bins has one.

It is interesting to observe the compactness of the Olympic's storage bins, from reference to Figure 1 and Figure 2. While the group consists of two rows of four bins each, so far as the principal bins are concerned, the seven outside interstice units have added a considerable volume to the capacity.

The most important feature of the storage bins, however, may be seen in section A-A in Figure 2, which illustrates the fact that through the use of these pumps it was possible to build the bins directly on the foundation slab. This eliminates a large item of cost in the complicated standard type of silo construction where it is necessary to construct separate bin bottoms over a tunnel passing beneath the bins to provide space for mechanical conveying equipment.

In the structure here illustrated, the flat bin floors were placed directly on the foundation slab, and their placing involved no difficulties. Another advantage is found by the lowering of the elevation of the top of the silos, an amount equivalent to the height of the tunnel.

A very small amount of cement remains in the bottom of the silo between the inlet openings of the suction pipes after the pump has done its work, and when it is desired to empty out the silo completely the remainder is moved by manual labor toward the nearest opening of the suction pipes and drawn out by the pump. The amount to be moved by manual labor is much smaller than in silos where the cement is discharged by gravity through openings in the bottom slab. Thus the quantity remaining to be removed by hand after the suction feed Fluxo pump has done its work varies from 2 to 4 per cent of the total bin capacity of the silo.

As previously indicated, and as shown rather clearly in Figure 3, each of the two pumps used in the Bellingham installation is mounted on a carriage on rails which permits the pump to be rolled back and forth to any of the pump stations within the lean-to and hooked up with the suction pipes in the silo bottoms and with the compressed air and vacuum pipe-lines.

Operation of Pump

The pump used in the Monolith installation is the gravity feed type, one of the comparatively recent developments of F. L. Smidth & Co. This pumping unit is the stationary single tank Fluxo pump located in the clinker mill where it receives the cement by gravity from the grinding mills and transports it to the cement silos a distance of about 500 ft. and a lift of about 115 ft.

The cement is discharged from the pump by means of compressed air. When the tank of the pump is filled the inlet closes automatically and the compressed air is automatically applied. After the tank of the pump is emptied, the inlet opens automatically for the next charge.

Because of the single tank with which this pump is equipped, the flow of cement is intermittent. This same pumping unit, however, can be supplied with two tanks if the capacity warrants, in which case the flow of cement will be continuous, one pump tank being discharged while the other is being filled.

Automatic Control

If the flow of material to the pump tank is delayed or interrupted, the pump ceases to operate, but automatically resumes operation as soon as the pump tank becomes filled. No adjustment or attention is required to meet this contingency, inasmuch as the action of stopping and resuming operation of the pump is controlled automatically. The automatic control system is an electro-pneumatic system operated from the regular light circuit.

Another stationary gravity-feed pumping unit similar to the one just described is employed in the packing house of the Olympic Portland Cement Co., where it is used as a spill tank, returning the accumulated cement from the packing machines and the dust collector to the packing bins. The action of this pump is likewise automatic, the cycle of operation starting when the pump tank has become filled. As soon as the accumulated cement is discharged the pump automatically ceases to operate, resuming operation only when the pump tank is again filled.

The gravity feed pump here described is not confined

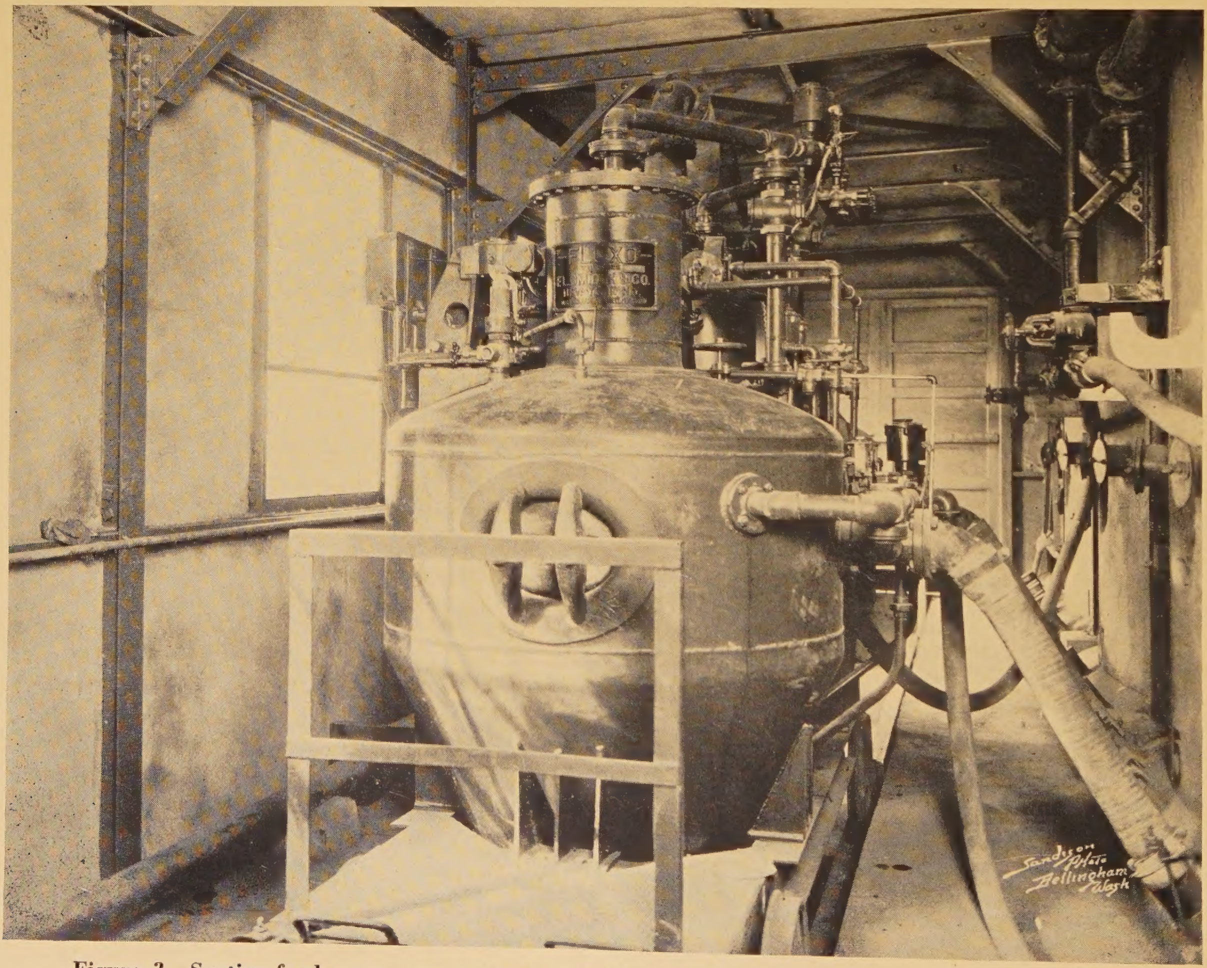


Figure 3. Suction-feed pump mounted on carriage operates on track alongside of storage bins

to the uses to which it is put at the Olympic and Monolith plants. As previously mentioned, the pump is used at the Monolith plant for conveying the freshly ground cement from the tube mills to the storage bins. At Bellingham one unit pumps the spill at the packing machines back into the packing bins, while two units alongside the storage bins transfer cement from one storage bin to another, from the storage bins to the adjoining packing house, and also to a more distant packing house.

Other cement plant uses for which the pump is adapted include the pumping of dry raw mix, conveying collected dust, and pumping cement to bulk cement-carrying cars or barges.

The Gravity Feed Pumping Unit

Similarly, the pump can be used in conveying cement from bulk cement cars to cement storage bins on large construction projects or at ready-mixed concrete plants. For this purpose, particularly where the cement is shipped in bulk in standard box cars, the gravity feed pump is best adapted. In installations of this kind the cement is moved from the box car by means of a power scraper, discharging into a feed hopper which feeds the cement into the pump by gravity.

Where special hopper cars are provided for bulk shipments, the suction feed pump may be used and the cement removed from the car by suction and pumped to its destination by compressed air.

The principle of operation for the suction feed pump is the same as that of the gravity feed pump except that the two tanks which are generally supplied for the suction feed pump are alternately subjected to vacuum and pressure. While the cement is being drawn into one tank by suction, it is expelled from the other by compressed air, then the cycle of operation is reversed, the tank previously under vacuum being placed under pressure and the pressure tank being subjected to vacuum. The repetition of these cycles is entirely automatic once the pump has been started.

A single tank suction feed pump for smaller quantities can also be supplied.

In connection with the suction feed pump, both a compressor and vacuum pump with filter are required, unless compressed air of adequate amount and pressure is available in an existing source, in which case the compressor may be omitted.

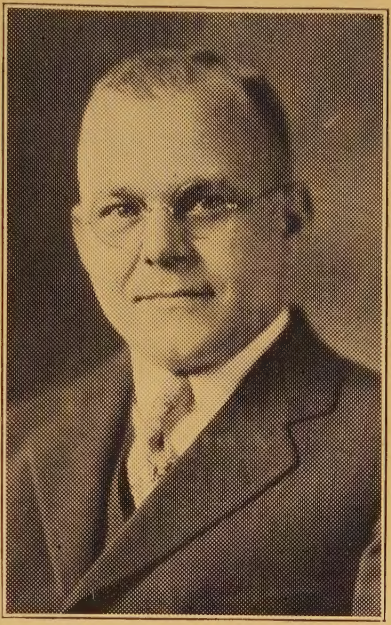
Capacity and Power Consumption

The capacity of each of the pumps installed alongside the storage bins of the Olympic Portland Cement Co. plant is 300 bbl. per hour when pumping to the bins over the packing machines in the packing house, and 330 bbl. per hour when pumping to bulk cement railway cars. The average power required for each of the pumps ranges from 60 to 67 kilowatts, so that the unit power consumption is around 0.18 to 0.22 kwh. per barrel of cement pumped.

P. C. A. Spring Meeting

The spring meeting of the Portland Cement Association will be held May 15 to 17 at the Waldorf-Astoria, New York City.

Director of Promotion Appointed by Cement Association



W. D. M. Allan, newly appointed Director of Promotion, Portland Cement Association

Announcement is made by Wm. M. Kinney, general manager of the Portland Cement Association at Chicago, of the appointment of W. D. M. Allan, manager, cement products bureau since 1926, as Director of Promotion, with responsibility for the planning and direction of the work of six of the departments of the association.

The new manager of the cement products bureau is W. G. Kaiser, for over ten years Mr. Allan's assistant.

Another change announced by Mr. Kinney is the appointment of C. R. Ege, manager, advertising and publications bureau, as assistant secretary.

Further details will be found in an item appearing in the Regular Section of this issue of CONCRETE.

New Officials at Helm of Republic Company

Changes have recently been made in the executive personnel of the Republic Portland Cement Co., San Antonio, Texas, according to an announcement made early in March.

A. F. Sayers is now president and general manager, Larry O. Cox, vice-president and sales manager, Sol Bromberg, vice-president, F. A. Smith, vice-president, and Ben R. Collins, secretary and treasurer.

Mr. Sayers was formerly works manager and superintendent; Mr. Cox sales manager, and Mr. Collins acting purchasing agent in addition to holding his present titles.

Hermitage Plant Escapes Tornado Damage

Contrary to newspaper press dispatches, the plant of the Hermitage Portland Cement Co., near Nashville, Tenn., suffered no damage from fire as a result of the recent tornado in the vicinity.

The plant destroyed by fire was the adjacent clay brick plant of the Busch Brick Co.

Quarterly Dividend Declared by Ideal

A quarterly dividend of 25 cents per share on the capital stock of the Ideal Cement Co. was declared on March 10 as payable April 1 to stockholders of record March 15.

Puzzolan Admixture to Cement Aids Resistance of Concrete

Effect on Chemical Reactions During Hardening Process Explained—Experiments Show Value of Deposit of Puzzolanic Material on Columbia River

By E. W. LAZELL, Ph.D.
Chemical Engineer, Chemical and Physical Laboratories, Portland, Oregon

IN the chemical reaction which takes place between water and portland cement, in the hardening of the cement, hydrated lime is formed. This hydrated lime does not materially aid the hardening process, or add to the strength of the concrete. On the other hand, because of the solubility of calcium hydroxide and also its activity in uniting with soluble sulphates, it can contribute to the disintegration of the concrete mass.

By numerous investigations it has been proved that the calcium hydroxide present in all concrete masses can unite with the soluble sulphates present in sea water, forming calcium sulphate. This calcium sulphate crystallizes with two molecules of water, thus occupying more space than the original calcium hydroxide. In this manner concrete can be disintegrated, the action being similar to that of ice forming in the interior of a mass. This is the reaction which causes the destruction of concrete in sea water, and also when exposed to alkaline waters.

Ordinary fresh water can also destroy concrete by dissolving the calcium hydroxide formed in the original hardening of concrete. As this calcium hydroxide is removed it renders the concrete mass more porous and the reaction becomes a progressive one. The start of this disintegration by fresh water can be observed on almost all concrete work which has been exposed to the action of water for a number of years.

Density the Only Preventive

The only preventive which is generally employed to render concrete resistant to the action of water, is to make the concrete mass as dense as possible. Since more water is required to render the concrete workable during placement, than is required for the chemical reaction between the water and the cement, this excess water results in lack of density. It is well known that even the densest concrete contains an appreciable amount of voids. Absolute density is not possible to be obtained.

If some substance could be added to the cement which would unite with the hydrated lime almost as soon as it is formed, and render the calcium hydroxide insoluble in water, and resistant to the action of the dissolved sulphates, the permanency of the concrete structure would be greatly improved. Such a material is puzzolana. This material is a natural silicate which possesses the property of uniting with calcium hydroxide, forming an insoluble lime silicate which is not acted upon by ordinary water or water containing dissolved sulphates.

Puzzolana has been known for centuries and was used by the Romans in all their construction work, especially where this work was to be exposed to the action of water or the elements. The Roman puzzolana cement was a mixture of the natural puzzolanic material found on the slopes of Mt. Vesuvius with ordinary slack lime or calcium hydroxide. Much of the work of the Romans made from this material is still in existence after 1900 years of exposure to the elements.

Increasing the Resistive Power of Concrete

By the addition of the correct amount of puzzolana to portland cement it is possible to make a concrete which will have a greater resistance than ordinary concrete to ordinary water, sea water, and alkali water. In other words, the addition is not dilutant but an amendant to the cement.

The puzzolanic material found near Rooster Rock, on the Columbia River, is the equal of the Roman puzzolana and is one of the best and most accessible deposits on the Pacific Coast.

My investigations, covering a period of years, show that by grinding together the correct proportions of puzzolan and portland cement clinker a cement is produced that will develop the strength of ordinary portland cement in 28 days' time, and possesses the further advantage of greater resistance to the elements.

Workers Sustain High Safety Record of Cement Plants

UPSETTING all predictions and expectations, the mills of America's cement industry established in 1932 a record for safe operation second only to the peak year of 1930, according to the reports compiled by the Portland Cement Association.

Intermittent operation during 1932 increased the factor of hazard, but exceptional care successfully overcame the added hazards.

The 1930 all-time record for safety in the cement industry showed 46 American mills operating without a single lost-time accident, the best previous record standing at 27. In 1932, 43 mills operated in complete safety.

Among the 43 plants without accident during 1932, five qualified for first awards of the safety trophy given by the Association for accident-free operation. These five plants are the Pennsylvania-Dixie Cement Corp., at Bath, Pa.; the Alpha Cement Co., at Martins Creek, Pa.; the Lehigh Portland Cement Co., at Union Bridge, Md.; the Monarch Cement Co., at Humboldt, Kans.; and the Lone Star Cement Co., at Dallas, Tex.

◆ EDITORIAL ◆

Supreme Court Approves Co-Operative Marketing Agency

ON March 13 the United States Supreme Court handed down a decision that may have a far-reaching influence on future marketing methods of industries made up of a number of competing units. The portland cement industry is a typical example of that type.

The decision, written by Chief Justice Charles Evans Hughes, deals with a co-operative marketing agency organized for the purpose of selling the output of a number of independent coal mines in the Appalachian coal fields. The opinion holds that the formation of the sales agency was not in itself a violation of the Sherman act. The decision reverses a lower court opinion, but reserves the right to institute a new prosecution if the marketing agency, in actual operation, should prove to place undue restraint upon interstate commerce.

Justice Hughes' decision holds further that a co-operative enterprise that is otherwise free from objection and carries with it no monopolistic menace is not to be condemned as an undue restraint where the change would be in mitigation of recognized evils and would not impair, but rather foster, fair competitive opportunities.

This marketing agency, known as Appalachian Coals, Inc., was organized by 137 producing companies in four states, to market the coal mined by those companies. The agency never has functioned, inasmuch as it had been restrained from the beginning by the government's legal proceedings.

This decision may at last open the way to considerable freedom of action by co-operative marketing agencies in many American industries. So far as the cement industry is concerned, successful co-operatives have become the usual channel through which the output is sold in some countries. Notable among such organizations are the Cement Marketing Company, Ltd., in England, and the Cement Marketing Company of India, Ltd., the latter having been described in articles in the September (1932) and the February (1931) issues of the Cement Mill Edition of "Concrete."

At the time the articles describing the Cement Marketing Company of India were published, it was considered extremely doubtful that such a marketing agency would be permitted to engage in interstate commerce in this country. Now that the Supreme Court has opened the way for competitive units of an industry to make "an honest effort to remove abuses, to make competition fairer, and thus to promote the essential interests of commerce," it would appear logical for cement manufacturers to avail themselves of the opportunity. This form of selling appears to have exceptional advantages for regional groups of companies each owning one or two plants.

It is not improbable that the cement industry will soon see the formation of marketing agencies of this character, organized in a manner analogous to Appalachian Coals, Inc.

Too Much Fuel

IN the production of 2,777,000 barrels of cement in February, the cement industry consumed 140,730 short tons of coal, 73,215 barrels of oil, and 1,038,149,000 cubic feet of natural gas.

If it is assumed that the heat value of the coal averaged 12,500 B.t.u. per pound, the oil 140,000 B.t.u. per gallon, and the natural gas 1,100 B.t.u. per cubic foot, and if the sum of the heat values is then expressed in terms of coal, it develops that the industry consumed the equivalent of 147 pounds of coal per barrel of cement.

Of course not all of that fuel was consumed in the actual burning of clinker, but by far the greater part of it was so used. Considering the number of plants that have installed equipment for utilizing the waste heat of the kilns, thereby requiring but little fuel aside from kiln fuel, it is probable that American rotary cement kilns are still consuming an average of about 100 pounds of coal per barrel in dry-process operation, and about 110 pounds in the wet process. And if these are the average figures, it must be remembered that some plants are burning considerably more than the average.

On the basis of the heat values assumed, the average fuel consumption in burning clinker in dry-process plants is therefore around 1,250,000 B.t.u. per barrel of clinker, and 1,375,000 B.t.u. in the wet process. This high rate of fuel consumption prevails in the face of the fact that several modern systems of burning require only 600,000 to 900,000 B.t.u. per barrel in the dry process, and but little more in wet-process operation.

There is no department of cement manufacture in which the need for modernization is demonstrated in more glaring fashion than in the case of fuel consumption. As T. H. Arnold pointed out in one of a series of articles in the Cement Mill Edition of "Concrete" in April, May and June, 1932, fuel cost is today the greatest single item in the manufacturing cost of cement, and it offers the greatest single opportunity for introducing savings of a worth-while nature.

Convenient Shipment of Bulk Cement in New Railway Hopper Car

Open Position of Roof Facilitates Loading—General Utility Car Is Suitable for All Kinds of Bulk Material—Ventilation Provided

SEVERAL past issues of the Cement Mill Edition of CONCRETE have carried illustrated articles describing the mechanical features and the operation of railway cars that were designed for the special purpose of transporting dry-flowing material such as bulk cement.

Self-Unloading Tank Car

One of the articles mentioned appeared in the May (1932) issue, pages 60-61, and described a self-unloading railway tank car intended for the transportation of dry, powdered or granular bulk commodities such as cement, hydrated lime, pebble lime, soda ash and similar materials. In outward appearance that car is much like the ordinary tank car for carrying liquids. The interior of the car is divided into three compartments, two of which are large compartments containing the commodity being transported, and the third is a small compartment at the middle of the car which houses the machinery by which the car is unloaded.

Hopper Car Unloaded by Gravity

A second article was printed in the July (1932) issue, pages 34-35. It described a railway hopper car that was designed for the shipment of bulk cement and similar commodities, and which is unloaded by gravity. The cars there described are similar to coal-carrying hopper cars, except that watertight roofs are provided, eight hatches giving access to the interior. The cars are, in fact, converted coal cars, fitted not only with a watertight roof and hatches, but with a transverse bulkhead at the mid-point of the car, and with tightly fitting hopper outlets.

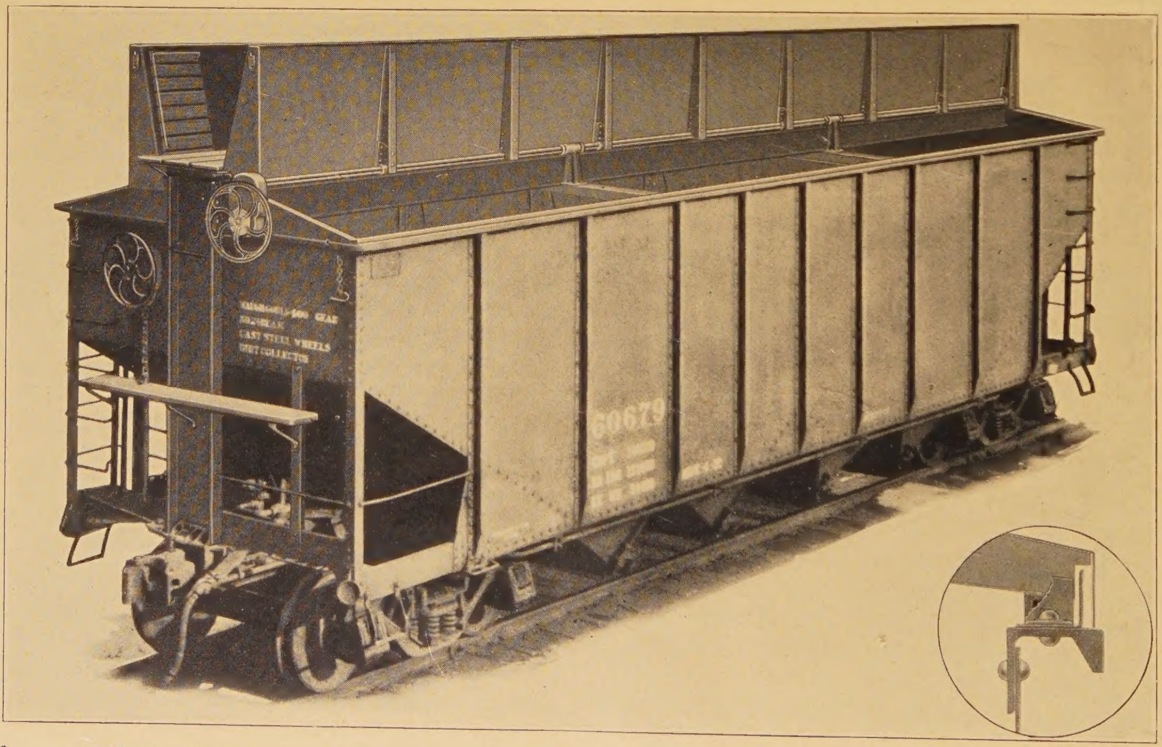
Both types of cars previously described are designed essentially as railway-owned equipment, either through lease or direct ownership.

Newest Hopper Car Has Special Features

Another railway car of the hopper type has now made its appearance. This car contains several features which will serve to broaden its use. To begin with, ventilation is provided when the roof is in a closed position, so that it may be employed in the shipment of commodities which would generate too much heat in an unventilated closed car. In the second place, the roof can be opened by means of a hand wheel, making the interior of the car readily accessible. The roof is opened from either or both sides, each side operating independently.

Wide-Open Top Facilitates Loading

Inasmuch as the car is wide open at the top when the roof is in an open position, loading may be accomplished



Manufacturers' illustration of new railway car for shipping bulk cement and other granular or pulverized products, with roof open by clamshells as well as by fixed or swinging chutes or spouts. Because of this feature, the car may be used in transporting coarse materials such as iron ore, coal, crushed stone and gravel, as well as for fine materials of the character of bulk cement, sand, mineral colors, silica, dry chemicals, and the like. Thus many materials now shipped in open-top equipment can be loaded just as readily into this car, thereby being protected during shipment from rain and snow storms, and from pilferage.

Likewise, materials such as bulk cement, often shipped in box cars because of the relatively small number of specially designed cars available, may be shipped conveniently and safely in this new type of car. The same is true, of course, of materials such as grain and dry chemicals.

Mechanical Features

From the mechanical standpoint there is little that can not readily be understood from the illustration. As previously mentioned, each side of the roof is opened up by means of a hand wheel, also shown in the illustration. When the car is loaded the roof is closed and sealed. Ventilation is provided at the eaves, but in a manner that prevents the entrance of a driving rain. The unloading hoppers at the bottom of the car, of which several are provided in the length of the car, are leak-proof, even for the most finely pulverized materials.

Applicable to Existing Equipment

The special roof construction is not confined to newly-built cars. With slight modifications it may be fitted on most of the existing steel hopper and drop-bottom gondola cars. This fact is of importance to the cement industry, for unless the railroads serving a cement manufacturing plant provide cars of this and similar types, the cement company can not take advantage of them. Under present conditions railway executives would quite naturally resist a demand for such cars if they could be provided only in the form of new equipment, whereas those same executives might give favorable consideration to a proposal to refit some of their existing open-top steel hopper cars and drop-bottom gondolas.

Acknowledgment

The car here described—or, more specifically, the special roof construction described—is the product of the Union Railway Equipment Co., of Chicago, of which William B. Hall is president. Undoubtedly this new railway equipment will give a further impetus to the tendency in the cement industry in the direction of bulk shipment.

Bill Seeks State Cement Plant for Arizona

A state cement plant for Arizona is sought under the terms of a bill introduced recently in the state House.

The bill provides for the levy of a tax of 5 cents on every 100 lb. of cement sold until $500,000 has been collected. An appropriation of $20,000 is also provided for an initial survey of prospects of such a plant. It would be constructed for the purpose of providing occupations for convicts and effecting economies in cement purchases by the state.

Opposition to the measure was declared immediately upon its presentation. Protests were aimed at the entry of convict labor into a competitive field with established concerns and the placing of prison-made cement on the open market.

Wages Climb With Price

International and Marquette Take Lead in Increasing Wages as Cement Price Mounts

Wage increases were announced during March by the International and Marquette cement companies following price increases and improvement in business.

The International Cement Corp. on March 20 announced increased compensation of hourly and weekly wage earners at its plants in Pennsylvania, New York, Indiana, and Kansas coincident with an advance of 10 cents a barrel in the price of its product.

The Marquette Cement Manufacturing Co. on March 25 decided that improvement in its business justified a 5 per cent increase in wages, effective April 1.

Bookings are favorable and business in general has improved, according to a statement issued from the La Salle, Ill., plant by Superintendent Richard J. Moyle.

Dry and Preheat Slurry with Waste Heat from Kiln

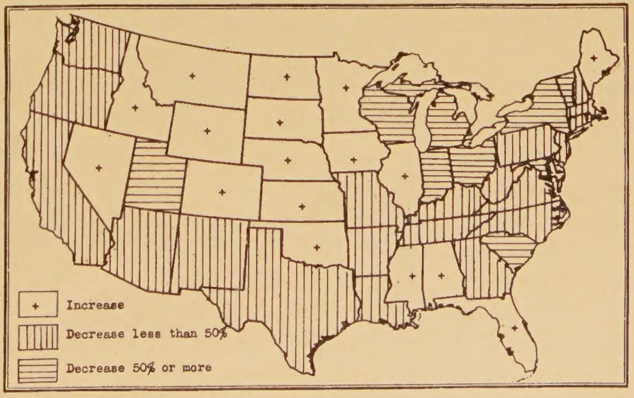
An installation developed in Germany utilizes the waste heat from a rotary kiln for drying and preheating slurry before it is passed on to the kiln.

The entire volume of waste gases from the kiln first passes through the preheater and then through the dryer. At the beginning of the operation the slurry is dehydrated in a filter of the drum type, around which cords or wire fabric bands are passed. These cords or wire bands extend into the dryer, which is equipped with a device for knocking the filtered material from them.

From the dryer the raw material is passed on to a rotary preheater, and then to the kiln. As stated, both the preheater and the dryer utilize the waste heat from the kiln which they are feeding.

This equipment has been developed by Krupp Grusonwerk Aktiengesellschaft, Buckau, Madgeburg, Germany.

The February Cement Map



The map above, issued by the U. S. Bureau of Mines, shows comparison of portland cement shipments in February, 1933, with shipments in February, 1932.

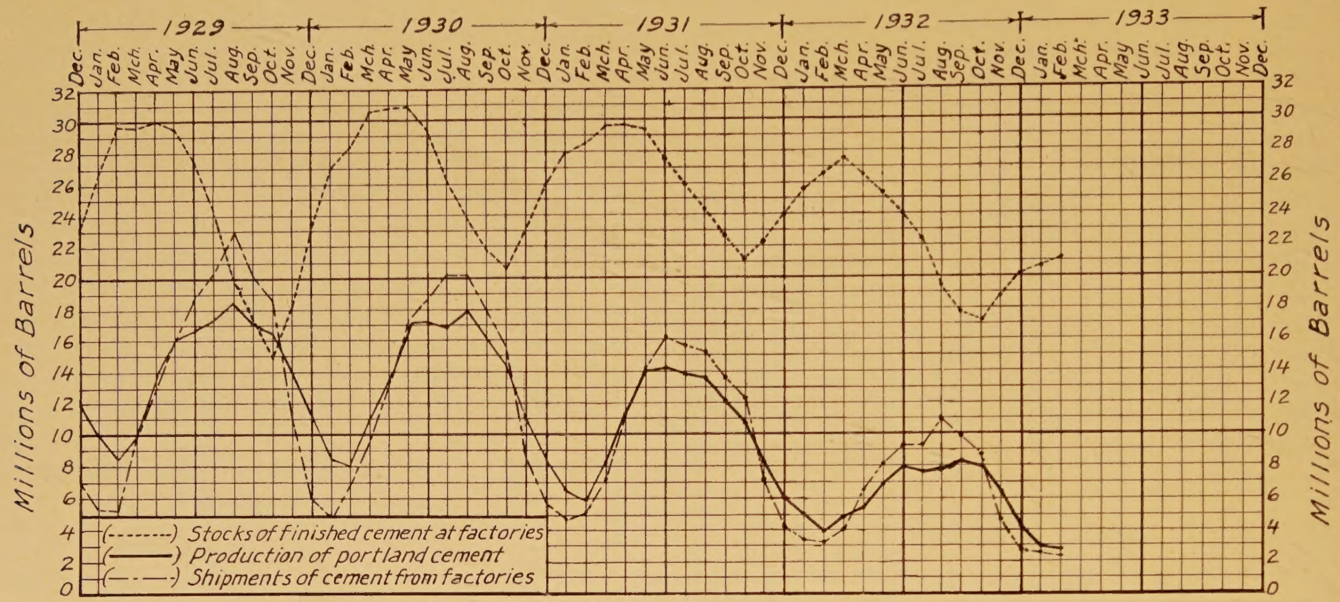
Cement Statistics for February

Relation of Production to Capacity (Per Cent)

	The Month	Twelve Months
February, 1933	13.4	27.1
February, 1932	18.7	45.2
January, 1933	12.9	27.6
December, 1932	18.5	28.3
November, 1932	29.1	29.0

Production, Shipments and Stocks of Finished Portland Cement (Barrels)

	1932	1933
Production, February	3,971,000	2,772,000
Shipments, February	3,118,000	2,275,000
Stocks at end of month	26,657,000	21,121,000
Production for year to date	8,997,000	5,730,000
Shipments for year to date	6,511,000	4,777,000



Cement Executives Give Views on Economic Upturn

That national restoration of confidence has taken place to a great extent was confirmed as the result of a telegraphic survey conducted in March by the Portland Cement Association and given wide publicity.

Edward J. Mehren, president of the Association, declared "the reports show America is again on the march."

Reports of some of the executives to the association's headquarters in Chicago include the following:

J. S. Young, president, Lehigh Portland Cement Company, Allentown, Pa.—"The financial situation is becoming more encouraging every minute and employment should show a gradual increase."

H. S. Struckmann, president, International Cement Corporation, New York—"Business is responding to President Roosevelt's courageous and constructive policies in this section as it is elsewhere."

East Responsive

Charles F. Conn, president, Giant Portland Cement Company, Philadelphia, and chairman of the association—"The East is on the way to better business."

L. C. Newlands, vice-president, Oregon Portland Cement Company, Portland: "General feeling is greatly improved and western revival of business is certain to follow that of the East."

E. P. Lucas, president, Superior Portland Cement, Inc., Seattle: "Everybody is showing more confidence. I feel we are on the upgrade."

John Treanor, president, Riverside Cement Company, Los Angeles: "A very definite change of sentiment is clearly evident."

C. D. Nichols, vice-president, Oklahoma Portland Cement Company, Oklahoma City: "Merchants report an increase in business of every variety."

Confidence Pronounced

H. L. Block, president, Missouri Portland Cement Company, St. Louis: "The return of confidence in this territory is very pronounced."

L. T. Sunderland, president, Ash Grove Lime & Portland Cement Company, Kansas City: "A high degree of confidence pervades this section of the Middle West."

Reports in a similar vein were received from several other executives.

Fredonia Plant Reopens to Capacity

The Consolidated Cement Corp. plant at Fredonia, Kansas, reopened to capacity operation on March 11, after having been closed down for several months.

Indiana Considers New Cement Purchase Plan

Contractors who receive Indiana state road paving projects may be required to purchase cement direct from wholesalers instead of receiving the cement from the state highway commission as under the present policy.

Gov. Paul V. McNutt on March 15 indicated that he has this change of policy under consideration.

A previously announced proposal under which the cement for road construction may be manufactured by prisoners at the Indiana state farm, however, has not been abandoned definitely, the governor said.

City Authorizes Cement Purchases on Open Market

Purchase of cement in the open market, without competitive bidding, for the city of Syracuse, N. Y., was authorized by the Common Council in an ordinance adopted February 20.

This action followed an increase in dealers' bids to $2.18 a bbl. from the previous quotation of $1.95.

Change in Financial Structure Proposed by Penn-Dixie

Pennsylvania-Dixie Cement Corp. proposes to change its authorized capital stock of 125,000 preferred shares and 587,000 shares of $1 par common.

The present capitalization is 200,000 preferred shares and 1,000,000 shares of no par common.

Michigan State Plant Ordered Reopened

To save the state considerable money on cement for highway purposes, the Chelsea state plant has been ordered reopened, according to a statement issued March 2 by the secretary of the state administrative board.

The plant was expected to be in operation by March 20.

◆ PERSONALS ◆

George E. Warren has been appointed by the Southwestern Portland Cement Co. as vice-president and manager of its eastern operations, at Osborn, Ohio, according to an announcement by President F. H. Powell dated March 10.

Mr. Warren had been located for a year at San Francisco, where he had general charge of the Portland Cement Association's Pacific Coast activities.

A. R. Couchman has been appointed assistant manager of the lime products department of the North American Cement Corp. He has for several years been safety director for the company and active in national inter-plant accident prevention work.

Morris Kind, founder and president of the Hercules Cement Corp., passed away at his home at Bryn Mawr, near Philadelphia, on March 14.

Mr. Kind first became associated with the cement industry on the Pacific Coast a number of years ago.

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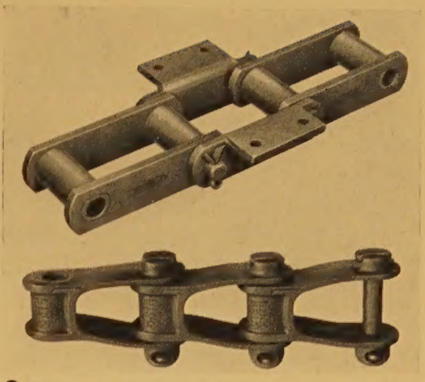
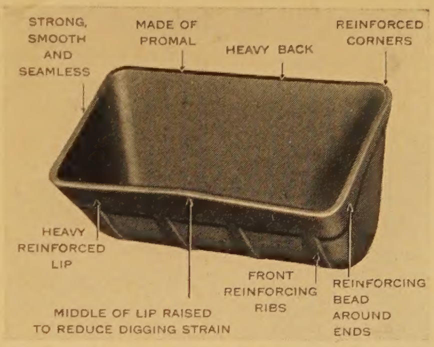
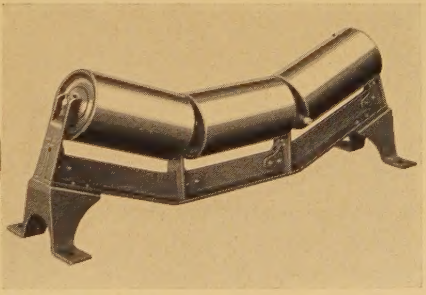


● Chains of all types and sizes, made of Promal malleable iron or steel


STRONG, SMOOTH AND SEAMLESS
MADE OF PROMAL
HEAVY BACK
REINFORCED CORNERS
HEAVY REINFORCED LIP
FRONT REINFORCING RIBS
REINFORCING BEAD AROUND ENDS
MIDDLE OF LIP RAISED TO REDUCE DIGGING STRAIN

● The "AAP" bucket made of PROMAL, the stronger, longer-wearing metal



● Link-Belt anti-friction belt conveyor idlers. A type for every service

● 20,000 sprockets always in stock for immediate shipment

Link-Belt conveying and power transmitting equipment is designed to eliminate losses and inefficiencies, and is well suited to modern manufacturing methods. It can be your answer to competition's challenge.

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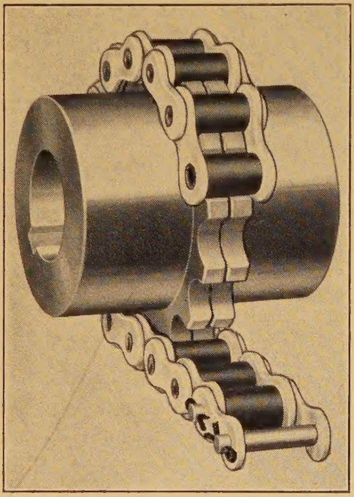
MILL EQUIPMENT

Silverlink Roller Chain Used On New Flexible Coupling

Having for many years manufactured "RC" finished-steel roller chain with sprocket wheels, for power transmission and conveying uses, Link-Belt Co., Indianapolis, Ind., now announces the development of a new flexible coupling in which the company's recently announced "RC" Silverlink roller chain will be used.

The new coupling, to be known as the Link-Belt "RC" flexible coupling, consists simply of two cut-tooth sprocket wheels (or coupling halves) and a piece of roller chain to connect them, all working surfaces being machined to close tolerances. A pin-and-cotter link makes it easy to couple or remove the chain when desired.



The standard sizes of couplings and both types of casings are illustrated and listed in a new folder which the company will send to anyone requesting a copy.

New Roller Bearing Idler By Fairfield

A recent addition to the Fairfield line of idlers for belt conveying systems is the Timken roller bearing idler of 6-in. diameter.

These idlers are available in both the troughing and return roller types.

Troughing idlers consist of three pulleys. They are supported by malleable iron brackets and a self-cleaning angle base. The pulleys are of the demountable type with all three interchangeable, one with the other.

The return rollers are the conventional flat one-piece with steel supporting brackets.

Pulley construction in all instances includes three fold labyrinth grease seals with ample grease reservoirs provided throughout.

These Fairfield idlers are built for belt widths ranging from 14 to 60 in.

Recorder-Controller for Testing Machines

An automatic controller in combination with a recorder has been developed by the Baldwin-Southwark Corp., Philadelphia, Pa. Basically, these devices combine extensometers, Bourdon tubes, and hydraulic valves in association with motors, relays, solenoids and mechanical clutches.

Industrial Literature

Westinghouse Gearmotors

An 8-page illustrated publication describing the complete line of Westinghouse gearmotors has recently been announced by the *Westinghouse Electric and Manufacturing Co.* These single and double reduction gearmotors consist of a simple all external type speed reducer combined with a standard motor. The illustrations include several applications together with detailed views of each model. Tables of output speeds for each model are included.

Reduction Unit Leaflet

The Allis-Chalmers Co., Milwaukee, Wis., has prepared a new booklet on motor reduction units—*Bulletin* 1164.

Two types are shown in photographic illustrations and in sectional views. A table of ratings and speeds with 1,750 r.p.m. motor is given.

The Hadsel Mill

An 8-page leaflet published by the *Hardinge Co.,* York, Pa., comprises a consulting engineer's report on the operation of the *Hadsel* mill. This equipment, whose capacities range from 25 to 2000 tons per day, is manufactured and sold exclusively by the Hardinge company.

Safety Jigger

The heavy-duty safety jigger of the *Productive Equipment Corp.,* Chicago, is described in *Bulletin 133.*

This is a positive eccentric vibrating screen with "circle-throw" vibration, and capable of dry, damp or wet screening. Listed advantages are its controlled vibration, rugged construction, easy tilting, low power consumption, and large capacity.

Improved Pulley Grip

Rubber pulley lagging increases the coefficient of friction between a rubber belt and a dry pulley face about 20 per cent and is particularly recommended for drive pulleys on belt conveyors and bucket elevators to improve pulley grip and prevent slipping, declares a 2-page insert for its mechanical goods catalog just issued by the *B. F. Goodrich Rubber Company,* Akron, Ohio.

Dust Collector Folder

A large size folder issued by the *Blaw-Knox Co.,* Pittsburgh, Pa., on its framed bag type dust collector, includes efficiency graphs, a cross-section view, and illustrations picturing the procedure in bag changing.

This is *Form No.* 1395.

Field Activities

H. G. Barnhurst Passes

H. G. Barnhurst, middle west representative of the Cement Sales department of the *Babcock & Wilcox Co.,* died of heart failure during the night of March 18 while asleep at the home of a coworker in the company's Chicago office.

Mr. Barnhurst at the time of his death was 60 years old and had been in the employ of the Fuller Engineering Co., Fuller Lehigh Co. and the Babcock & Wilcox Co. for a combined period of 29 years. He was well known for his activities in the early development of pulverized fuel.

Previous to his becoming chief engineer of the Fuller Engineering Co. and advisory engineer of the Fuller Lehigh Co., Mr. Barnhurst was engineer for the Lehigh Portland Cement Co., associated with Professor Carpenter of Cornell University, and superintendent of the Diamond Portland Cement Co. His home was at 94 Groton Street, Forest Hills, Long Island.

Chain Belt Appointments

The Chain Belt Co. have appointed *A. S. Kennedy* as manager of the new branch office in Kansas City. Rex chains and conveyors were formerly marketed in this territory by the St. Louis office.